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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/253,245	02/19/1999	GARY ALLAN HARPELL	30-4496	5377

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EXAMINER

COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
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1771

16

DATE MAILED: 01/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/253,245	Applicant(s) HARPELL ET AL.	
	Examiner Elizabeth M Cole	Art Unit 1771	

-- Th MAILING DATE of this communication app ars on th cover sh t with the correspondence addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 7, 8, 9, 21 and 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 7-9 recite an “ultra high molecular weight polyethylene” and/or an “ultra high molecular weight polypropylene”. This renders these claims indefinite because it is not clear whether this is referring to weight average or number average molecular weight.

2. In claims 22 and 23, it is not clear how the flexibility is being measured since there are no units.

3. Claim 21 contains the trademark/trade name Spectra. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a particular type of fabric and, accordingly, the identification/description is indefinite.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-17, 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirtzinger, U.S. Patent No. 3,686,048 in view of WO 91/08895 to Li et al. Schirtzinger discloses a material as set forth above. Schirtzinger differs from the claimed material because Schirtzinger et al does not teach the other types of fibers claimed and because Schirtzinger does not teach the claimed ratio of matrix to fibers or the size of the matrix islands. With regard to the types of fibers, Li et al teaches that fibers such as high molecular weight polyethylene, high molecular weight polypropylene and aramid fibers are equivalent to glass fibers for preparing composite materials. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed fibers such as high molecular weight polyethylene or polypropylene or aramid fibers instead of the glass fibers in the material of Schirtzinger. One of ordinary skill in the art would have been motivated to employ the fibers of Li in the material of Schirtzinger since the fibers are taught as being useful in forming composite materials. Since Li teaches the same fibers as the claimed fibers, the fibers of Li would inherently possess the claimed properties such as tenacity and modulus. With regard to the amount of resin employed, although Schirtzinger does not specify the amount, Schirtzinger clearly teaches that enough resin should be used to form a strong fiber array without employing excess resin which would prevent the passage of the resin which is used to form the composite material from fully penetrating the fiber array. See col. 4, lines 23-56. Therefore, it would have been obvious to one

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of ordinary skill in the art at the time the invention was made to have selected the amount of resin employed to form the resin bridges through the process of routine experimentation so that an optimum amount of resin was used which allowed for both the formation of a strong array of fibers and the fully impregnation of the fiber array with the resin used to make the composite material.

6. Applicant's arguments filed 2/9/01 have been fully considered but they are not persuasive.

Applicant argues that the specification discloses that with regard to the polypropylene, the molecular weight of the ultra high molecular weight polypropylene is disclosed as the weight average molecular weight. However, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With regard to the ultra high molecular weight polyethylene, the specification is silent as to whether molecular weight refers to weight average or number average, as well as what suitable values of molecular weight would be considered "ultra high". Applicant's arguments that the specification uses the term "weight average" on pages 13 and 14 as well as arguments regarding previous applications have been considered, but are not persuasive because in the instant application, the term "ultra high" is not adequately defined in the specification and because the specification does not disclose whether the molecular weight of the polyethylene is refers to weight average or number average. Therefore, this grounds of rejection has been maintained.

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With regard to claim 14, since the term “robust structure” is defined at page 7, lines 2-3 this ground of rejection is withdrawn. Applicant defines “robust structure” at page 7, lines 2-3 as follows: “the domain matrix binds the fibers in a unitary structure that is easily handled without a tendency to separate or spread.” The claims are interpreted in light of Applicant’s definition.

With regard to claim 21, a new ground of rejection is set forth above.

With regard to claims 22 and 23, since the claims as written do not refer to how the flexibility was measured, (i.e., by a specific ASTM method, etc.), the rejection has been maintained. The recitation that the material has a flexibility of a certain numerical value without more renders those claims indefinite. Applicant could overcome this rejection by amending the claims to recite that the material has an h/l ratio of 0.7 or more or 0.85 or more. This would integrate the particular test method used into the claims. However, as currently written, the limitation that the material has a flexibility of 0.7 or more or 0.85 or more is indefinite.

With regard to the art rejection, Applicant argues that claims as amended recite a limitation on a planar dimension of the matrix islands which is not found in either of the prior art references. However, although Schirtzinger does not disclose the exact size of the resin bridge, Schirtzinger does teach that quantity of resin applied should be controlled so that the resulting material has sufficient structural integrity but not enough to wet out the fibers. Schirtzinger also teaches that the resin particles provide “minute bridges”. See col. 3, lines 23-40. Therefore, it is the examiner’s position that one of ordinary skill in this art would have been motivated to use as little resin as possible to form the bridges and therefore, it would have been obvious to have

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optimized the amount of resin employed to form minute bridges which provide structural integrity to the fibers.

7. All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application under 37 CFR 1.53(d) and could have been finally rejected on the grounds and art of record in the next Office action. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (703) 308-0037. The examiner may be reached between 6:30 AM and 5:00 PM Monday through Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (703) 308-2414.

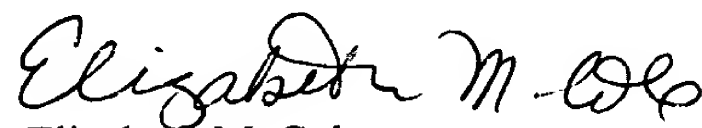
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Inquiries of a general nature may be directed to the Group Receptionist whose telephone number is (703) 308-0661.

The fax number for official faxes is (703) 872-9310. The fax number for official after final faxes is (703) 872-9311. The fax number for unofficial faxes is (703) 305-5436.

A handwritten signature in black ink, appearing to read "Elizabeth M. Cole". The signature is fluid and cursive, with the first name being the most prominent.

Elizabeth M. Cole
Primary Examiner
Art Unit 1771

e.m.c
December 29, 2001